

awns 4, straight, retrorsely barbed, the 2 pairs unequal, the longer about 3 mm. long.— Originally described from Rupert House, James Bay. Found in August, 1904, on brackish or saline shores, submerged at high tide, near the mouths of the Bonaventure, the St. John (or Douglastown) and the Dartmouth Rivers, QUEBEC.

GRAY HERBARIUM.

### FURTHER NOTES ON THE BUTTON-BUSH.

WALTER DEANE.

IN the December number of *RHODORA* for 1902 (iv. 243–4) I published an account of the persistence of the Button-bush on the farm of Mr. Augustus E. Philbrook of Shelburne, New Hampshire. The place where it grew had been drained and the bushes, though buried under three feet of sand and loam, had persisted in pushing their way up to the light, and for thirty-seven years had flourished, flowering in profusion in their most unnatural quarters, despite the fact that the space in which they grew had long been enclosed and used as a yard for pigs and hens. Notwithstanding the treatment that the Button-bush received, it grew as if unconscious of its changed surroundings.

I have visited Philbrook Farm every year since 1902 and have watched with interest the struggle for existence of my plants. Though at the time when I wrote the article I thought that there was no limit to their life, I was soon aware that each year the number of living stems was diminishing with considerable rapidity. This was apparently due wholly to the fact that the plants were being entirely denuded of their bark at the base, owing to the too great familiarity of their porcine companions.

In 1907 feeling that the little colony was playing a losing game, I had a small space of between three and four square meters enclosed in one corner of the yard.

This was done through the kindness of Mr. Philbrook who has been much interested in this singular case from the beginning. The enclosed space included the most flourishing part of the Button-bush and removed it from all noxious influences. But few plants outside the enclosure showed any signs of life.

In October of the present year, 1908, the status was as follows. In my small preserve five stems were alive — they had produced an abundance of flowers during the summer, but no fruit had set. Everything outside the protected part had been cut down to make way for improvements. This included but two or three living plants. The future is I think very uncertain as the bark of the five survivors has been so roughly handled that they may not long survive. However they have lived already for forty-three years under the most disadvantageous conditions and I trust that I shall yet see the old veterans with their many scars for some years longer.

CAMBRIDGE, MASSACHUSETTS.

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NOTES FROM MANCHESTER, NEW HAMPSHIRE.—Some years ago the writer received from a friend in Andover, N. H., a few specimens of *Subularia aquatica* L. These were placed as rarities in the herbarium of our local Institute. In 1906, while hunting for shore plants at Lake Massabesic, a sheet of water 2500 acres in extent, which supplies the city of Manchester, there were found a few plants of this very local crucifer which had been driven by the south wind upon Severance's beach, a long stretch of fine white "scouring sand" on the north shore, in the town of Auburn. In October, 1907, the lake being unusually low, more of the bottom was exposed, and the plants were found in great abundance. This year (1908) the extraordinary drought has reduced the level still more, the surface being 2 ft. below the dam at the outlet, and about 5 ft. below the level of the lake when full, so that a much larger area of sand is exposed. There was found (Oct. 8) to be an almost continuous belt of the plants, from 2 ft. to 2 rods wide, the greater part immersed, extending a distance of not less than 1500 ft. A square foot of sand, measured off where the plants were sown thickest, contained, by actual count, more than 100 plants. There is evidently no immediate danger of the species being exterminated at this station.

The following extensions of the known range of certain species may be of interest. Specimens of all the plants named have been sent to the Gray Herbarium. In 1906 *Eleocharis diandra* C. Wright was found on the sandy shore of Merrimack River. When the station was revisited this season there were also found *Scirpus americanus* Pers. and *S. debilis* Pursh. In the same locality with the *Subularia*